

Claims

- [c1] An LED curtain display system, comprising:
- a) a non-rigid curtain having a display side and a reverse side and defining one or more holes substantially therethrough and arranged in a desired display pattern;
 - b) one or more washers each defining a central opening, said washers fastened to said reverse side of said curtain, with the central openings of said washers substantially aligned with the holes in said curtain in one to one relation; and
 - c) one or more LED lighting units contained in an LED light string, each of said LED lighting units inserted through the central opening of a respective washer to form a visible display pattern on the display side of the curtain when said LED lighting units are activated.
- [c2] The LED curtain display system of claim 1 further comprising a cable connector affixed to said curtain and located at one end of the curtain running vertically, wherein said cable connector joins said LED light strings together.
- [c3] The LED curtain display system of claim 2, wherein said LED light string is programmably connected to a com-

puter through an Ethernet connection.

- [c4] The LED curtain display system of claim 3, further comprising a means for hanging the curtain.
- [c5] The LED curtain display system of claim 1, wherein the one or more washers are fastened to the reverse side of the curtain with adhesive.
- [c6] The LED curtain display system of claim 5 , wherein the adhesive is a styrene-based clear adhesive.
- [c7] The LED curtain display system of claim 5, wherein the washer has a front face and a rear face, and said front face is fastened to the reverse side of the curtain, and said rear face is adhesively attached to a housing of an LED lighting unit.
- [c8] The LED curtain display system of claim 1, wherein the curtain is formed of a material selected from the group consisting of: cotton, polyester, denim, polyester blends, and cotton blends.
- [c9] The LED curtain display system of claim 1, wherein the curtain is formed from two or more panels joined together.
- [c10] The LED curtain display system of claim 1 wherein the LED light units are present in a plurality and are arranged

in substantially parallel rows and columns to form a matrix.

- [c11] The LED curtain display system of claim 3 wherein the LED display is programmably controllable to vary the colors emitted by each individual LED lighting unit over time.
- [c12] The LED curtain display system of claim 1, wherein at least one of the LED lighting units has an associated a dome lens that extends through the respective hole in the curtain.
- [c13] The LED curtain display system of claim 1, further comprising one or more fiber optic strands each having a proximal end and a distal end, wherein the distal ends of said fiber optic strands are affixed to the curtain and the proximal ends of said fiber optic strands are affixed to a light source.
- [c14] A method of making an LED curtain display system, comprising the following steps:
 - a)providing a curtain fabric having a display side and a reverse side;
 - b)forming a plurality of holes through the curtain fabric;
 - c)affixing a plurality of washers wherein each washer defines a central opening to the reverse side of said curtain

such that the central opening of each washer substantially aligns with one of the holes through the curtain fabric;

d)providing a plurality of LED lighting units on an LED light string and fitting each LED lighting unit through the central opening of a respective washer in the plurality of washers, so that each of said LED lighting units is visible from the display side of the curtain fabric;

e)connecting said LED light string by male and female connectors to a main connector cable;

f)connecting said connector cable to a power supply; and

g)connecting said connector cable either directly or indirectly to a computer containing an LED illumination control program and an Ethernet-based hardware controller.

[c15] The method of claim 13, wherein each washer is affixed to the curtain fabric with an adhesive.

[c16] The method of claim 13, wherein each LED lighting unit has a housing and said housing is affixed to a respective washer with an adhesive.

[c17] The method of claim 13, wherein the washer is pre-affixed to the LED lighting unit and then glued to the reverse side of said curtain fabric such that the central opening of the washer substantially aligns with the hole through the curtain fabric to create a reinforced hole

within said curtain fabric.

[c18] The method of claim 13, wherein a plurality of LED light strings is installed onto the curtain fabric.

[c19] The method of claim 18, wherein the plurality of holes through the curtain fabric form a matrix, and the LED light units are affixed in said matrix such that each LED light string forms a row.